Review Lab 3
Genes affecting Left-Right Symmetry

• It is obvious how the primitive streak relates to the anterior-posterior axis of the chick embryo. At this very early stage, however, left-right axis asymmetry can be seen in gene expression patterns.
• Both N-cadherin and snail show asymmetric expression.
• N-cadherin is a type of cadherin cell adhesion protein.
• Snail is a transcription factor (named after the phenotype of a mutant fly).
Expression of N-cadherin (blue) in chick embryos (dorsal view of whole mounts about 18 hrs A-D)

Where is N-cadherin mRNA expressed in A-D? How does its location change with increasing time?
Expression of chick snail gene at 18 hrs (A) and 24 hrs (B) in whole mount dorsal view

What is unusual about the expression of snail mRNA?
Expression of Snail mRNA in 20 hr (E) and 30 hr (H) chick embryo transverse sections

Asymmetry of bilateral expression (arrows) is found in what tissues?